

DOCKET NO: 273100US0PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
JOCHEN ACKERMAN, ET AL. : EXAMINER: VALENROD, Y.  
SERIAL NO: 10/541,307 :  
FILED: APRIL 10, 2006 : GROUP ART UNIT: 1621  
FOR: IMPROVED PROCESS FOR :  
CONTINUOUSLY PREPARING  
ALKY(METH)ACRYLATES WITH  
REPEATED CATALYST RECYCLING

REPLY BRIEF

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

In response to the Examiner's Answer dated February 24, 2009, Appellants provide the following remarks.

**(1) Rejection of Claims 20-22 Under 35 U.S.C. §112, First Paragraph**

The Examiner asserts that the present specification does not support the recitation in claims 20-22 that the first portion and/or the third portion is "recycled directly to the reaction apparatus." See Examiner's Answer, pages 9 to 10.

Claims 20 and 22 recite "dividing a bottom effluent from the vacuum evaporation stage into a first portion and a second portion; and recycling the first portion ... directly to the reaction apparatus." FIG. 2 of the present application shows an exemplary apparatus that may be employed to carry out the process of claim 20. FIG. 4 of the present application shows an exemplary apparatus that may be employed to carry out the process of claim 22. In

FIGS. 2 and 4, at least a portion the bottom product 18 from the vacuum evaporation stage 6 flows unimpeded (without encountering another apparatus) to the reaction apparatus 1.

Claim 21 and 22 recite "dividing a bottom effluent from the film evaporator into a first portion and a second portion; and recycling the first portion ... directly to the reaction apparatus." FIG. 3 of the present application shows an exemplary apparatus that may be employed to carry out the process of claim 21. FIG. 4 of the present application shows an exemplary apparatus that may be employed to carry out the process of claim 22. The Examiner asserts that the present specification does not show the bottom effluent from the film evaporator being recycled directly to the reaction apparatus, because, in FIGS. 3 and 4 the bottom product from the gentle film evaporator 5 flows to the distillation column 4 before being recycled to the reaction apparatus 1. *See Examiner's Answer*, page 10. However, the Examiner overlooks the fact that the gentle film evaporator 5 is described as part of the "vacuum distillation stage (4, 5)" in the present specification. *See present specification*, page 14, lines 17 to 22. At least a portion of the bottom product 18 from the apparatus 4, 5 having a film evaporator function in FIGS. 3 and 4 flows unimpeded (without encountering another apparatus) to the reaction apparatus 1.

**(2) Rejection of Claims 1-22 Under 35 U.S.C. §112, Second Paragraph**

The Examiner asserts that the term "current catalyst activity" is indefinite because it can be interpreted in various ways. *See Examiner's Answer*, page 10. First, the Examiner does not assert that "current catalyst activity" cannot be defined, but rather asserts that it could have many definitions. As is well settled, breadth of a claim is not to be equated with indefiniteness. *See MPEP §2173.04* (citing *In re Miller*, 169 U.S.P.Q. 597 (C.C.P.A. 1971)). Second, the Examiner's assertion that the term "current catalyst activity" cannot be construed is obtuse. The present application is directed to a catalyzed transesterification reaction used

to obtain alkyl(meth)acrylates. *See* present specification, page 1, lines 6 to 8. One of ordinary skill in the art could readily determine whether current catalyst activity is being measured in terms of, e.g., yield of the desired alkyl(meth)acrylate and, thus, could readily determine whether a subject process falls within or outside the scope of the present claims.

**(3) Rejection of Claims 1-22 Under 35 U.S.C. §103 Over Geisendoerfer**

With respect to the feature of determining how much bottom effluent to recycle on the basis of current catalyst activity, the Examiner asserts that it would have been obvious to recycle bottom effluent in the process of Geisendoerfer on the basis of current catalyst activity because "it is well known to be desirable to maintain reagent concentrations within optimal ranges for a given reactor." *See* Examiner's Answer, page 11. This general proposition simply is insufficient to suggest that the process of Geisendoerfer should be modified to include a step of measuring current catalyst activity and determining of how much bottom effluent to recycle on the basis of such measurement. The Examiner further asserts that catalyst activity is a result effective variable. *See* Examiner's Answer, page 12. This assertion is inapposite. In present claims 1-3, the result-effective variable is the amount of bottom effluent that is recycled. Geisendoerfer provides no indication that the amount of bottom effluent that is recycled is a result effective variable, much less that such amount should be selected on the basis of current catalyst activity.

With respect to the feature of directly recycling bottom effluent, the Examiner asserts that Geisendoerfer discloses directly recycling catalyst in paragraph [0170]. *See* Examiner's Answer, page 12. However, the Examiner is not comparing analogous features from Geisendoerfer and the present claims. Claims 20-22 recycle a portion of the bottom effluent from "a vacuum evaporation stage for receiving a bottom product remaining after separation of a highly pure ester product" and "a film evaporator for separating a highly pure ester

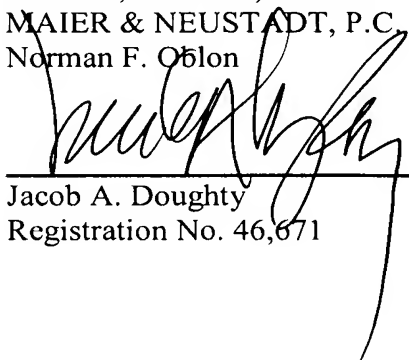
product." The relevant bottom effluent in Geisendoerfer is the bottom effluent from the "Distillation of Pure Ester." See Geisendoerfer, paragraph [0182]. Such bottom effluent is clearly subjected to a work up before recycling. See, e.g., Geisendoerfer, paragraphs [0192] to [0201].

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In view of the foregoing remarks and the remarks set forth in the Appeal Brief dated October 24, 2008, Appellants respectfully request that the outstanding rejections be reversed.

Respectfully submitted,

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